

Project Fact Sheet

Mound Long Term Stewardship Initiative

In Partnership with the Office of Science and Technology

Introduction

The Mound Facility of the Miamisburg Environmental Management Project, located in western Ohio, has been selected for the Long Term Stewardship Initiative (LTSI) of the Department of Energy's (DOE's) Deactivation and Decommissioning Focus Area (DDFA). Mound was chosen for the LTSI due to its closure schedule and its proximity to a population center. It is set to close in 2006, and is situated on 306 acres of land in the town of Miamisburg, approximately ten miles from Dayton. There



is no undeveloped public land between its land and the town. The entire buffer is provided by land belonging to DOE.

Background

The Mound Facility Ohio began operations in 1948. Its mission was originally to fabricate the neutron initiator for the atomic bomb. This mission was subsequently expanded to include research, development and production of numerous nuclear and non-nuclear weapons components, production of radioisotope thermoelectric generators (RTG's) for spacecraft, and

surveillance of nuclear weapons components. Mound generated a variety of radiological and hazardous wastes during its more than five decades of operation, chiefly tritium, heavy metals and organic solvents.

Project Scope

The project's purpose is to identify, select, demonstrate and deploy technologies and systems that will provide DOE, regulators, stakeholders and the public with the assurance that the public and environment are protected after cleanup of the Mound facility is completed in 2006.

This project will serve as the prototype of Long Term Stewardship (LTS) projects throughout DOE and will be a test bed for a suite of real-time integrated surveillance and monitoring systems which will act autonomously to transmit data to remote locations. The scope of the project is to monitor radiological and chemical contaminants, structural integrity of buildings, and flora and fauna. Also included in the scope is the provision for information technologies or systems for the long term collection, storage, protection and reporting of data.

Technical Needs

Preliminary technology needs have been identified based on the project scope, with the assumption that DOE completely vacates the site after 2006. These are:

- Monitoring institutional controls/ deed restrictions prohibiting boring or installing bedrock wells without regulatory approval



- Monitoring institutional controls/ deed restrictions prohibiting site soil removal without regulatory approval
- Real-time monitoring of water where appropriate, including Sole Source aquifers, aquitards, seeps and their sources.
- Data management technology that allows long term storage, accessibility and ease of use, utility and ability to be updated

Current Status

Project funding has been secured and a project kick-off meeting was held in September, 2001. The Technology Team (TT) has been established and a path forward has been developed. A technology vendor workshop is currently scheduled for late January or early February, 2002.

The TT is currently working to define more clearly the potential building monitoring

needs. These efforts will begin with T Building, a multi-story structure that is located almost entirely underground. The initial task is to fully determine radiological/ hazardous materials present and define the remedies and remedy goals. Determination of building end state and post-closure monitoring are required.

Potential long term monitoring technologies for the Mound LTS needs identified to date are:

- Soil removal - aerial photographs, satellite images, portal monitors, city permits
- Well drilling – acoustic signature, sensor triangulation, aerial photos, satellite image, plus city permits
- Industrial use of buildings – permits
Team will identify the building needs for the next iteration. This will be a continual process of identifying needs and finding technologies.

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